Ethics in a Pandemic: A Survey of the State Pandemic Influenza Plans

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A pandemic of highly pathogenic influenza would threaten the lives of hundreds of thousands in the United States and confront governments and organizations, with ethical issues having wide-ranging implications. The Department of Health and Human Services and all states have published pandemic influenza plans.

We analyzed the federal and state plans, available on the Internet, for evidence of ethical guidance as judged by the presence of ethical terms. The most striking finding was an absence of ethical language. Although some states acknowledged the need for ethical decisionmaking, very few prescribed how it should happen. If faced by a pandemic in the near future, we stand the risk of making many unjust and regrettable decisions. (*Am J Public Health*. 2007;97:S26–S31. doi:10.2105/AJPH.2006.093443)

IN ANTICIPATION OF A devastating pandemic of human influenza, the World Health Organization published recommendations for countries to use in their own preparations.[1,2] In November of 2005, the US president's Homeland Security Council laid out a broad national strategy,[3] followed thereafter by a more detailed pandemic influenza plan and subsequent supplements issued by the Department of Health and Human Services (DHHS).[4–6] The plan and supplements describe the role the federal government would play in a pandemic and provide guidance to state and local governments, with whom the principal responsibilities for planning and responding would lie.

Hundreds of thousands of people in the United States could die in a period of months during a pandemic of highly pathogenic influenza. The allocation of resources and the application of control measures would therefore have enormous ethical implications, not only in the saving of lives but also in the preservation of human rights, maintenance of a functioning society, and the achievement of social justice.

Considering the ethics of a situation entails ethical reflection and discussion, skills that require preparation and practice. When a wave of influenza deaths begins in a community, there will be little time to reflect and discuss, much less alter public health and medical and other social systems to act more ethically. The time to consider the foreseeable ethical challenges is well before the pandemic.

Levels of ethical awareness and competence required for such a task are as follows: (1) recognizing that an ethical dimension exists, (2) identifying specific ethical issues, (3) identifying guidelines and tools for ethical reasoning, (4) deciding who is responsible for which ethical decisions, (5) preparing responsible parties to engage in ethical decisionmaking, (6) putting the decided plans into action, and (7) evaluating whether the action achieved the intended result. A federal or state pandemic influenza plan could be expected to address levels 1 through 4 and provide guidance for achieving level 5. To assess the amount of ethical awareness and reasoning in the DHHS plan and the state influenza pandemic preparedness plans, we conducted systematic text searches for ethical terms and examined the contexts in which they were used.

METHODS

We analyzed the federal and state influenza pandemic plans to describe and quantify the presence or absence of ethical language in influenza planning. Both the US influenza plan and the national strategy document were searched. State pandemic influenza preparedness plans were obtained from the repository of links to state plans on the US pandemic influenza Web site and the Council of State and Territorial Epidemiologists Web site.[7] State health department Web sites were individually searched when the federal repository did not link to a plan. Plans for all 50 states and the District of Columbia were available in either draft or final form by September 9, 2006. Two states, Washington and West Virginia, had only planning overviews available, which described highlights of the planning process but did not provide operational specifics. Most state plans were written in 2005 and 2006; the earliest (Maryland) was written in 2003. Texts of the most recently available versions of plans were downloaded in portable document format (pdf) for analysis.

A list of common terms with ethical meanings was compiled from terms or concepts in the Public Health Code of Ethics and its supporting documents. We used the advanced text search function of Acrobat Reader version 7.0 (Adobe Systems Inc, San Jose, Calif) to locate instances of ethical terms. The stemming option in Acrobat Reader enabled us to systematically search for words related to the root stem of interest for all words excluding *just*, *justice*, and *responsive*, which were searched using the "whole words only" option. Instances of all terms were inspected for their context; uses not relevant to ethics were excluded. We searched

TABLE 1—Occurrence of Ethical Language in US Pandemic Influenza Planning Documents: September 2006

	State Planning Documents[a]		Federal Documents[b]	
Language	No. of State Plans (%)	Total Mentions	Total Mentions	Exemplary Quotations[c]
Participation	45 (88)	488	46	"... participate in surveillance actions ..."
				"... roles and the expectations associated with their participation."
Duty	37 (72)	208	7	"... it is the duty of the local health directors to ..."
				"... duty to enforce isolation and quarantine orders."
Collaboration	25 (49)	576	93	"In collaboration with the CDC and other groups ..."
				"... collaboration among healthcare and community leaders ..."
Consent	25 (49)	101	3	"... a signed consent form ..." [for experimental vaccine]
				"... consent of the legislative authority ..."
Inclusive	25 (49)	43	9	"Ensure coverage is inclusive of ..."
				"For inclusion in this federal liability coverage ..."
Ethic	20 (39)	123	8	"... adhere to appropriate medical ethics ..."
				"Consult ethics advisors ..."
Right	18 (35)	50	8	"... reserve the right to change priority groups ..."
				"... the public's right to know ..."
Accountability	16 (31)	31	0	"... maintain strict accountability for vaccine."
				"When the decision-makers are credible and accountable to the public ..."
Just	14 (27)	45	0	"... only if the potential benefit justifies the potential risk to the embryo or fetus."
				"Quarantine of contacts can be justified for a limited range of situations."
Privacy	14 (27)	45	6	"... privacy during medical screening."
				"... proposed action could cause individuals or groups to lose privacy ..."
Competence	13 (25)	26	5	"... medications, equipment, and competent staff necessary to ..."
				"Establishing a clear process will demonstrate competence and confidence ..."
Harm	13 (25)	27	1	"... could be postponed without harm to the patient."
				"To prevent or minimize ... harm to the environment ..."
Confidentiality	12 (23)	45	7	"Provide confidential telephone support lines ..."
				"... poses confidentiality concerns."
Trust	12 (23)	43	20	"... establish and maintain trust across all agencies and organizations."
				"Instill public trust by communicating in an open and honest way ..."
Diversity	11 (21)	17	4	"... combined diverse background and experience [of advisory board members]."
				"Expand pilot reporting focusing on ... geographical diversity."
Representation	10 (20)	21	5	"... will have representation from the Governor's Office."
				"... balanced representation of sites that are diverse in age, risk groups, (etc.) ..."
Fair	9 (18)	15	2	"... communities who believe they are not receiving their fair share of vaccine ..."
				"... will develop a fair and equitable formula for allocation ..."
Obligation	9 (18)	18	0	"[This law] obligates the county ... to render aid ..."
				"... fulfilling our social and civic obligations in formulating ..."
Responsive	8 (16)	14	3	"An informed and responsive public is essential ..."
				"In order to ensure an effective and responsive volunteer program ..."

Continued

for the following ethics-related words: *accountability, autonomy, collaboration, competence, confidentiality, consent, disparity, diversity, duty, egalitarian, equality, equity, ethic, fair, harm, inclusive, just, liberty, moral, obligation, participation, privacy, representation, responsive, responsibility, right, transparent, trust,* and *utilitarian.* We did not include some more technical ethical terms, such as *categorical imperative* and *deontology.* Words appearing in tables of contents, major section headings, professional titles, proper names of places or individuals, and bibliographic references were excluded. Names of departmental offices were excluded from tabulation unless the office had a professional role in addressing ethical considerations, in which case the name was counted only the first time it appeared in the document. As an example, in searching for the term *fair*, we excluded *affairs*, *fairly* ("moderately"), *fairs* "public gatherings"), *Fairfax*, *Fairbanks*, and *Federal Fair Labor Standards Act.*

RESULTS

The use of ethical terms in the federal plan and supplements did not vary markedly from the state plans (Table 1). However, the federal documents contained higher proportions of use of the words *participation*, *collaboration*, *transparent*, *trust*, and *liberty* than the state plans. The reliance on these terms is consistent with 2 of the 3 pillars listed in the national strategy document: preparedness and communication and response and containment.[3]

TABLE 1—*Continued*

Transparent	8 (16)	27	12	"... provide transparent and timely dissemination of ... information"
				"... openness and transparency in building and maintaining our credibility ..."
Equity	7 (14)	18	2	"... develop a plan for equitable distribution of vaccine ..."
				"... improve equity in access within priority groups ..."
Liberty	5 (10)	22	5	"Restrictions on individual liberty may be necessary to protect the public."
				"... restrict the liberty of a sick person ..."
Autonomy	3 (6)	5	0	"... preexisting town and village boards of health might have greater autonomy ..."
				"... respects the autonomy of other health jurisdictions and response agencies ..."
Disparity	2 (4)	2	1	"... highlight the complexities and disparities in existing capabilities ..."
				"... consultation with the Office for the Elimination of Health Disparities ..."
Equality	2 (4)	2	0	"Use disease controls consistent with autonomy, self determination, and equality ..."
				"... focus on maintaining or restoring equality ..."
Moral	1 (2)	2	0	"Integrity is a foundational moral value rooted in honesty."[d]

[a]Includes all US states and the District of Columbia (n = 51). For Washington and West Virginia, only plan summaries were available.
[b]Federal planning sources searched included the Department of Health and Human Services plan and the national strategy document.
[c]Exemplary quotations were selected to highlight the most common uses and the diversity of contexts in which the term was used.
[d]Both instances of the use of *moral* were in nearly identical constructions and therefore are not presented separately.

Among the state plans, the 3 most frequently invoked ethical terms were *collaboration* (576 mentions), *participation* (488), and *duty* (208), represented in 49%, 88%, and 72% of the plans, respectively. As a group, the frequencies of these terms reflect the focus on logistic and organizational issues of pandemic planning engendered in the documents.

Additional ethical terms were used in limited and specific contexts and did not generally correspond to consideration of the variety of ethical issues that may arise in a pandemic. The term *consent* was used in 25 (49%) of the plans. A few states mentioned consent in relation to mandatory vaccination programs; however, the most common context was Food and Drug Administration guidelines for seeking or waiving informed consent during the testing of experimental vaccines. Text related to this issue was repeated verbatim across state plans, a consistency beyond coincidence that suggests a federal directive to include specific language when this topic is addressed. Similarly, text containing ethical terms from the federal DHHS plan was repeated verbatim in state documents in areas such as communication and transparency.

The terms *ethic* and *right* were each used in 20 (39%) and 18 (35%) of the plans, respectively. The states that mentioned ethics did so in acknowledgment of the anticipated need for ethicists. For example, Vermont's plan mentioned the need to "consult ethics advisors regarding guidelines for limiting care," and Florida's plan states, "The Florida [Department of Health] will adhere to appropriate medical ethics and practice when allocating scarce resources."

Some states also referred to the rights of citizens (e.g., "Careful consideration must be given to concerns such as patient confidentiality, the public's right to know, and the need for cross-departmental communications." [North Carolina]), whereas others referred to the rights of the state (e.g., "The federal government and state officials reserve the right to change priority groups [for vaccination] goals based on epidemiological, medical, and essential circumstances." [Delaware]).

The word stem *just* (including *justice*) appeared in 14 (27%) state plans, usually with the concept of justification (e.g., "only if the potential benefit justifies the risk" [Alabama, District of Columbia, Florida, and Oklahoma]). Only California and New Mexico's plans mentioned the word *justice*. *Equity*, a term used in 7 (14%) plans, was applied principally to the allocation of medications and vaccine. Nine (18%) state plans appealed to the need for *fair* allocation of resources, and 9 mentioned other governmental *obligations* (e.g., to formulate school contingency measures [District of Columbia]). Five (22%) plans mention *liberty*, and 2 (4%) state plans mention *disparities*, including the Texas plan, which calls for soliciting input from the state Office for Elimination of Health Disparities. The term *moral* was used twice in similar contexts only in the New Mexico plan: "Integrity is a foundational moral value rooted in honesty."

The California plan was the only one to include the words *egalitarian* and *utilitarian*. These latter 2 words were used to describe theoretical approaches to the rationing of limited medical resources. The California Department of Health Services, in conjunction with the University of California, Berkeley, Center for Infectious Disease Preparedness, developed a decisionmaking tool to "simultaneously analyze multiple goals, criteria, and alternatives to develop an optimal prioritization scheme" for vaccination.[8] The Decision Analysis Scoring Tool was created through a transparent 4-stage process: (1) identification of goals, potential strategies, and target populations; (2) development and administration of a survey to a panel of experts; (3) analysis of results, rank-ordering of target groups, and sensitivity analysis; and (4) recommendation and implementation of findings, which were included in the California plan. Explicit discussions of the tensions between egalitarianism and utilitarianism were conducted in this process.

The pandemic influenza plans from Minnesota, New Mexico, and Tennessee, as well as the plan summary from West Virginia, also contained sections dedicated to ethical decisionmaking during a pandemic. Of these, the New Mexico "Ethics Guidance and Matrix" was the most developed and articulated ethical principles and their applications. The ethics chapters from the New Mexico, Tennessee, and West Virginia were influenced directly by work of Kotalik[9] in the Canadian national pandemic influenza plan.[10]

In the section entitled "Ethical Allocation of Scarce Resources," the authors of the Tennessee plan identified 3 ethical values (stewardship, reciprocity, and equity) that should be applied to the allocation of ventilators and other limited resources. In another section, the Tennessee plan also included 3 tables defining "principles and values that should be used to guide decisionmakers throughout pandemic planning and response."[11] These tables defined criteria for response policies, values to guide ethical decisionmaking, and procedural guidelines for ethical decisionmaking.

The Minnesota plan summarized potentially ethically difficult scenarios and suggested strategies for discussing and preparing for them. The plan advises officials to "convene an interagency, multidisciplinary group, with a component of public input, to develop processes to address issues and provide an ethical framework for decision makers that could be used to promote public understanding, trust and buy-in."[12] However, the Minnesota plan mentioned only ethical considerations that relate to resource allocation during a pandemic.

The Montana planning document bears mentioning in that it made an effort to present aspects of the plan in a transparent manner with a focus on ethical tenets, such as participation, representation, and diversity. For example, nearly all sections of the plan started with lists of assumptions that the authors made in drafting the recommendations. Working with tribal authorities was emphasized. There is also a section on how and when the military should be engaged to deal with a pandemic of influenza, and a plan to inform the public is outlined with key audiences identified.

DISCUSSION

The published federal and state plans generally recognized an ethical dimension to pandemic influenza responses, and they identified a number of the key ethical issues, such as resource allocation and constraints of civil liberties. At times they prescribed an action that implied an ethical perspective, such as the identification of priority groups for vaccinations. However, more often than not, the documents were opaque in their ethical reasoning. The implied messages were a combination of "trust us and do as we say" and "ethics are self-evident, just do what is needed to preserve lives."

In the plans that acknowledged an ethical component to pandemic preparation and responses, the topics addressed were most often the allocation of scarce technological resources, such as antiviral agents, vaccine, and respirators, or the restriction of liberties, as in quarantine. Once a pandemic begins, a vaccine will be months in the making and may become available only in limited quantities and, in some communities, perhaps only after the pandemic has peaked. If the pandemic should be delayed for several years, antiviral stockpiles will still be small or may have expired. Although decisions about how to allocate vaccines and antiviral agents will have important ethical implications, these biomedical tools may be irrelevant to most people except for their potential use in preserving social infrastructures.

Ethical Omission

The federal DHHS plan does not guide states to prepare for ethical decisionmaking. Although it recommends priorities for allocating scarce quantities of antiviral medications and vaccines and reasons for placing importance in particular sets of recipients, it does not articulate the underlying ethical values or principles that would enable states to rethink or refine the priorities. Moreover, an ethicist is not listed among the 13 offices and 10 "additional participants" who should compose a state-level pandemic influenza coordinating committee. Similarly, although the federal DHHS plan recommends that each hospital develop an education and training plan, training in ethical decisionmaking is not listed among the needed skills, and a person trained in ethics is not listed among the 37 types of expertise to be represented in a health care facility pandemic influenza planning committee.[4]

Elsewhere in the federal DHHS plan, an ethical framework is implied but not made explicit. For example, in writing that state and local authorities will be guided by epidemiological data in implementing isolation and quarantine measures, the plan implies that the decisions are principally utilitarian. In mentioning the need to minimize the impact of these decisions on freedom of movement, it also alludes to civil liberties and human rights. However, allusion to a concept cannot replace disciplined, well-informed, deliberation.

For documents prescribing so many ethically laden actions and choices, the absence of ethical language and transparency in ethical reasoning in the state plans is striking. Only a handful of states provided explicit ethical justification for recommendations. Apart from vague references to the need for ethicists, most do not prescribe a process for identifying or addressing ethical issues that may arise during a pandemic. The documents that were reviewed reflect a belief that ethics are self-evident or of little practical relevance.

Health care professionals who see their work as saving lives may assume their work is, by definition, ethical, and they may view anything they do as inherently good. In public health, there is a potential misconception that the ethical work is done once actions

are in place to minimize mortality in a population. The ability to see the ethical implications in a decision or action or to articulate the ethical underpinnings of a decision is a learned skill. Unfortunately, these abilities are seldom taught to students of public health in the United States.[13]

It must be noted that the presence of ethical terminology is not the sole indicator of a plan's incorporation of ethical principles. During the drafting process for state pandemic influenza plans, regional summits were held to coordinate efforts between adjacent states. This was often the first step toward developing a written pandemic influenza plan, and ethicists were invited to provide direction to stakeholders. Through presentations, discussions, and reading material, ethical issues were commonly discussed in these sessions and in state offices during document drafting. It is unfortunate that these discussions did not translate into more carefully articulated ethical positions in the final planning documents. However, as many of the plans point out, the state pandemic influenza response plans will be revised and updated regularly, and many are still in draft form; there is the opportunity to address ethical issues more thoroughly in the future.

Preparing for Future Ethical Decisions

If we are to adequately prepare for a pandemic of influenza, how should we prepare to be ethical? At a minimum, we should enumerate ethical decisions that can be anticipated, devise structures and systems for ethical deliberation, train people to work in those systems, and begin to address issues that can be handled before a pandemic.

The very nature of ethical decisionmaking is characterized by action after thorough deliberation by well-informed people, often through collaborations between government and academia. The collaboration between the California Department of Health Services and University of California, Berkeley, in preparing the California pandemic plan is a good example of this approach. Moreover, there are a few examples relevant to pandemic influenza planning that are not evident in the published state plans. After the publication of its plan, the North Carolina Department of Health Services engaged the services of the state's Institute of Medicine to help identify ethical issues in responding to an influenza pandemic. At the national level, a group of trained health ethicists was convened by the Centers for Disease Control and Prevention (CDC) to serve as a subcommittee of the advisory committee to the CDC director. This group of ethicists, in turn, continues to work with representatives of each of the centers in the CDC to enhance their capacity to identify and address ethical concerns. They are currently drafting guidelines for ethical decisionmaking in a pandemic that will be posted at http://www.cdc.gov/od/science/phec/guidelinesPanFlu.htm.

Another important component in public health ethics is input from the community. The Public Health Code of Ethics states that "the effectiveness of institutions depends heavily on the public's trust" and that "collaboration is a key element to public health." Most importantly, "each person in a community should have an opportunity to contribute to public discourse."[14] The Public Engagement Pilot Project on Pandemic Influenza was an experimental program created to solicit public input on prioritization of vaccination groups and to determine the effectiveness of the participatory process.[15] The Public Engagement Pilot Project on Pandemic Influenza included a primary phase of deliberation with stakeholders and expert consultants, followed by discussions with and among public citizens in 4 states. Presentations addressing technical and ethical aspects of vaccine distribution provided context for the deliberations. The evaluation from this project suggested improvements in knowledge about influenza and satisfaction with the nature of the solicitation. However, the extent to which the generated recommendations have been incorporated into state and national planning is not clear.

Following these examples, each state, or in some cases, groups of states, would be enabled to identify individuals trained in health ethics to advise on decisions to be made in anticipating and responding to pandemic influenza and other public health emergencies. Even while forming a state-level ethics advisory group, the reliance on such a group should be minimized by enabling local boards of health, hospitals, and other agencies to make ethical decisions at the local level. This will entail the development of materials for in-service training and the creation of local ethics advisory groups. Key resources for training in public health ethics include the Public Health Code of Ethics,[14] a model ethics curriculum,[16] a series of online modules on public health ethics,[17] a list of competencies and skills,[18] and documents used in the Decision Analysis Scoring Tool and Public Engagement Pilot Project on Pandemic Influenza programs.[8,15]

A number of Canadian authors, drawing on experience from the outbreak of sudden acute respiratory syndrome, adeptly addressed some of the ethical issues particular to an influenza pandemic, including culling of bird flocks, health care workers' duties and rights, priorities for allocation of scarce resources, restrictions on liberties, and issues requiring global governance, such as international travel.[9,10,19]

Individuals trained in health ethics will recognize that the ethical concerns in a pandemic extend well beyond the allocation of antiviral agents, vaccines, and other technologies. Although allocation of scarce resources has been addressed in some of the state plans and planning processes, none provide guidance for broader social concerns. For example, what other public needs are we willing to temporarily neglect so that resources can be diverted to prepare for a pandemic that is probable but not certain? What research priorities are there apart from the development of biomedical

technologies? Can we avoid pandemic response policies that are likely to exacerbate existing health inequities? How are we to justly treat undocumented immigrants working in the United States when the pandemic begins? What compromises in professional ethics are we willing to incur if the need arises to conscript individuals into various forms of service? How will communities care for children orphaned by influenza deaths? Lastly, how can the media's impulse to highlight dramatic events and inflame fears be tempered ethically?

Conclusions

A pandemic of influenza will give rise to a multitude of critical ethical questions. The importance of these questions should not be inferred from the low level of attention given to them by the federal and most state pandemic influenza plans. The vast majority of those plans reflect an underdeveloped sensitivity to the ethical concerns raised by a pandemic. Still, some state plans and the initiatives described in this article offer hope of progress. The planning processes for pandemic influenza offer new opportunities to engage the public in ethical decisionmaking. Despite the plans described here, ethical planning at state and local levels may not occur before a pandemic or other public health emergency. In that event, we risk making unjust and indefensible decisions that will affect thousands of people. History will judge our generation's response to the next pandemic in large part by our ability to act ethically. ■

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